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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,115

05/05/2006

Ernst Winklhofer

66376-378-7

6924

25269

7590

06/03/2008

DYKEMA GOSSETT PLLC  
FRANKLIN SQUARE, THIRD FLOOR WEST  
1300 I STREET, NW  
WASHINGTON, DC 20005

EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

06/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/573,115	<b>Applicant(s)</b> WINKLHOFFER ET AL.	
	<b>Examiner</b> DUNG T. NGUYEN	<b>Art Unit</b> 2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32-73 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-35, 37, 39-48, 54-61, 64 and 70-73 is/are rejected.
- 7) ☒ Claim(s) 36, 38, 49-53, 62, 63 and 65-69 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/05/06</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

## **OFFICE ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: ‘an internal combustion engine with a laser ignition device, comprising a Q-switched, pumped solid-state laser’ should be corrected to “a Q-switched, pumped solid state laser for a laser ignition device of an internal combustion engine, comprising”.

Claim 60 is objected to because of the following informalities: ‘the heat dissipater’ should be “a heat dissipater”.

Claim 68 is objected to because of the following informalities: ‘the inner coolant’ should be “an inner coolant”.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 32, 34-35, 37, 39-48, 54-61, 64, 70, and 72-73 are rejected under 35 U.S.C. 102(b) as being anticipated by Muncheryan (4979180).

Claims 32, 34-35, 37, 39-48, 54-61, 64, 70, and 72-73, Fig.4 and col.2, l.51-68 and col.3, l.1-18 disclose an internal combustion engine with a laser ignition device, comprising a Q-switched, pumped solid-state laser with a pulsed pumped light source 58, a solid laser crystal 59 embedded in a resonator, a Q-switch 65 for increasing the power density, at least one output mirror 64 and a focusing device 66, by means of which the laser beam may be focused in a combustion chamber, wherein the pumped light source, resonator plus laser crystal, Q-switch, output mirror, focusing device and a cooling device (two different cooling systems: Peltier and heatsink) for cooling the resonator are integrated in a single component which can be inserted into a spark-plug shaft.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muncheryan (4979180) in view of US2007/0121689. Muncheryan disclose all limitations of the claims except for the passive Q-switching.

US2007/0121689 teaches the passive Q-switching in para.0075.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Muncheryan what is taught by US2007/0121689 to use either the passive or active Q-switching.

***Allowable Subject Matter***

Claims 36, 38, 49-50, 53, 62, 65, 68-69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The above prior art fail to disclose the limitations as recited in the claims.

Claims 51-52, 63-64, 66-67 are also found objected due to their dependency of above claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US6347101.

**Communication Information**

**Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-1835.

**Michael Dung Nguyen**  
**Primary Examiner**  
/Dung (Michael) T Nguyen/

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Primary Examiner, Art Unit 2828